JC Rec'd PCT/PTO 31 MAY 2001

FORM-PTO-1390 (Rev. 12-29-99) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371

ATTORNEY'S DOCKET NUMBER: 032287-017

U.S. APPLICATION NO. (If known, see 37 C.F.R. 1.5): UNASSIGNED 09/857029

INTERNATIONAL APPLICATION NO.	INTERNATIONAL FILING DATE	PRIORITY DATE CLAIMED
PCT/AT99/00293	1 December 1999	1 December 1998

TITLE OF INVENTION: METHOD FOR CONFIGURING A NETWORK TERMINATION UNIT

APPLICANT(S) FOR DO/EO/US: Johann PFEIFFER

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This is an express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and the PCT Articles 22 and 39(1).
4. ☒ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
   a. ☒ is transmitted herewith (required only if not transmitted by the International Bureau).
   b. ☒ has been transmitted by the International Bureau.
   c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US)
6. ☒ A translation of the International Application into English (35 U.S.C. 371(c)(2)).
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
   a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
   b. ☐ have been transmitted by the International Bureau.
   c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
   d. ☒ have not been made and will not be made.
8. ☐ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. ☒ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11. to 16. below concern other document(s) or information included:

11. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☒ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☒ A FIRST preliminary amendment.
    ☐ A SECOND or SUBSEQUENT preliminary amendment.
14. ☐ A substitute specification.
15. ☐ A change of power of attorney and/or address letter.
16. ☒ Other items or information:

    International Preliminary Examination Report

JC10 Rec'd PCT/PTO 31 MAY 2001

U.S. APPLICATION NO. (If known, see 37 C.F.R. 1.5)	INTERNATIONAL APPLICATION NO	ATTORNEY'S DOCKET NUMBER
UNASSIGNED 09/857029	PCT/AT99/00293	032287-017

17. ☒ The following fees are submitted:	CALCULATIONS	PTO USE ONLY
Basic National Fee (37 CFR 1.492(a)(1)-(5)):		
Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO $1,000.00 (960)		
International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO $860.00 (970)		
International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO $710.00 (958)		
International preliminary examination fee paid to USPTO (37 CFR 1.482) but all claims did not satisfy provisions of PCT Article 33(1)-(4) $690.00 (956)		
International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(1)-(4) $100.00 (962)		
ENTER APPROPRIATE BASIC FEE AMOUNT =	$ 860.00	
Surcharge of **$130.00 (154)** for furnishing the oath or declaration later than 20 ☐ 30 ☐ months from the earliest claimed priority date (37 CFR 1.492(e)).	$ -0-	

Claims	Number Filed	Number Extra	Rate		
Total Claims	7 -20 =	-0-	X$18.00 (966)	$ -0-	
Independent Claims	1 -3 =	-0-	X$80.00 (964)	$ -0-	
Multiple dependent claim(s) (if applicable)			+$270.00 (968)	$ -0-	
TOTAL OF ABOVE CALCULATIONS =				$	
Reduction for 1/2 for filing by small entity, if applicable (see below).				$ -0-	-
SUBTOTAL =				$ 860.00	
Processing fee of **$130.00 (156)** for furnishing the English translation later than 20 ☐ 30 ☐ months from the earliest claimed priority date (37 CFR 1.492(f)). +				$ -0-	
TOTAL NATIONAL FEE =				$ 860.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). **$40.00 (581)** per property +				$ 40.00	
TOTAL FEES ENCLOSED =				$ 900.00	
				Amount to be: refunded	$
				charged	$

a. ☐ Small entity status is hereby claimed.

b. ☒ A check in the amount of $ 900.00 to cover the above fees is enclosed.

c. ☐ Please charge my Deposit Account No. 02-4800 in the amount of $_____ to cover the above fees. A duplicate copy of this sheet is enclosed.

d. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 02-4800. A duplicate copy of this sheet is enclosed.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

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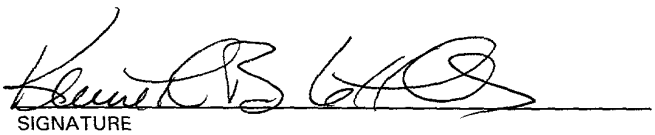

SIGNATURE

Kenneth B. Leffler
NAME

36,075
REGISTRATION NUMBER

Patent
Attorney's Docket No. 032287-017

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of	)	
	)	
Johann PFEIFFER	)	Group Art Unit: UNASSIGNED
	)	
Application No.: UNASSIGNED	)	Examiner: UNASSIGNED
	)	
Filed: May 31, 2001	)	
	)	
For: METHOD FOR CONFIGURING A NETWORK TERMINATION UNIT	)	
	)	

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to examination, please amend the above-identified application as follows:

IN THE CLAIMS:

Please replace claims 3-7 as follows:

3. (Amended) Process according to claim 1, **wherein** at the beginning of transmission a CBR connection is always assumed as the initial value.

4. (Amended) Process according to claim 1, **wherein** the presence of a UBR or CBR connection is determined only after the evaluation of the results of a predeterminable number of data packets.

5. (Amended) Process according to claim 1, **wherein** on establishing a UBR connection, the network termination unit can optionally be set in the Early Packet Discard EPD mode.

6. (Amended) Process according to claim 1, **wherein** the data packets detected by the network termination unit [10] as data packets of a UBR connection are fed to a buffer [11] and the data packets detected by the network termination unit [10] as data packets of a CBR connection are fed to a buffer [12] with lower storage capacity as against that of the first buffer [11].

7. (Amended) Network termination unit for the asynchronous Asynchronous Transfer Mode ATM transmission of data, by means of which the data divided into cells and assembled into packets with several cells can be sent and received with constant CBR and also non-constant UBR data rate, a first buffer [11] allocated to the UBR data, and a second buffer [12] allocated to the CBR data being provided, in particular for the application of the process according to claim 1, **wherein** it comprises a device [14] for the determination of the number of data cells contained in each data packet which undertakes a classification, corresponding to the determined number of data cells, of the ATM connection present, and according to this classification deflects the data packets either into the buffer [12] allocated to the CBR data or into the buffer allocated to the UBR data.

Application No. UNASSIGNED
Attorney's Docket No. 032287-017

REMARKS

The above changes to the claims have been made to delete multiple dependency of the claims, to round out the scope of patent protection being sought, and generally to place the claims in better condition for examination on the merits.

Respectfully submitted,

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Date: May 31, 2001

Attachment to Amendment dated May 31, 2001

Marked-up claims 3-7

3. (Amended) Process according to claim 1[or 2], **wherein** at the beginning of transmission a CBR connection is always assumed as the initial value.

4. (Amended) Process according to claim 1[, 2 or 3], **wherein** the presence of a UBR or CBR connection is determined only after the evaluation of the results of a predeterminable number of data packets.

5. (Amended) Process according to [one of claims 1-4] claim 1, **wherein** on establishing a UBR connection, the network termination unit can optionally be set in the Early Packet Discard EPD mode.

6. (Amended) Process according to [one of claims 1-5] claim 1, **wherein** the data packets detected by the network termination unit [10] as data packets of a UBR connection are fed to a buffer [11] and the data packets detected by the network termination unit [10] as data packets of a CBR connection are fed to a buffer [12] with lower storage capacity as against that of the first buffer [11].

7. (Amended) Network termination unit for the asynchronous Asynchronous Transfer Mode ATM transmission of data, by means of which the data divided into cells and assembled into packets with several cells can be sent and received with constant CBR and also non-constant UBR data rate, a first buffer [11] allocated to the UBR data, and a second buffer [12] allocated to the CBR data being provided, in particular for the application of the process according to [one of claims 1-6] claim 1, **wherein** it comprises a device [14] for the determination of the number of data cells contained in each data packet which undertakes a classification, corresponding to the determined number of data cells, of the ATM connection present, and according to this classification deflects the data packets either into the buffer [12] allocated to the CBR data or into the buffer allocated to the UBR data.

Process for Configuring a Network Termination Unit

The invention relates to a process for configuring a network termination unit for asynchronous packet ATM (Asynchronous Transfer Mode) transmission of data, the data divided into cells and assembled into packets being transmitted either at a constant data rate (CBR, Constant Bit Rate) or at a non-constant data rate (UBR, Unspecified Bit Rate), and the data cells of packets being received and sent over the network termination unit, which represents an interface between a transmission line and a data end device.

To increase efficiency, the principle of packet switching is applied in many data nets in the transmission of data. The data to be transmitted is divided, at node points defined for the purpose, into defined packets, is provided with an address and additional auxiliary information such as error protection, and is transmitted to the next node in a packet-switched manner independently of the origin and destination of the data; the packets can be intermediately stored in each node until they are transmitted. A service designed for this purpose is, e.g., SDH (Synchronous Digital Hierarchy), in which standardized interfaces and multiplex systems make possible transmission rates of 155 Mbit/s. A further development thereof is represented by the ATM (Asynchronous Transfer Mode) kind of transmission, by means of which the data to be transmitted are split up into cells of fixed length and asynchronously multiplexed. In addition, these cells are combined into standardized packets.

The great advantage of ATM is that the available bandwidth can be used in the best possible manner at any given time. For this purpose, different kinds of transmission rates can be established. Thus, for example, a choice can be made between a constant transmission rate CBR and a non-constant transmission rate UBR, in order to be able to fulfill various requirements. Constant bit rate (CBR) is always required when a delay of the packets by predetermined delay times could have troublesome effects, as is the case for video or speech transmissions. UBR transmission can be generally used in data traffic, since a change of the data transmission rate plays no part for this purpose. Therefore, at nodes within the data transmission path, those data packets which are sent in CBR mode are given preference over those transmitted in UBR mode, in order to be able always to ensure the constant transmission rate for the CBR packets.

In an ATM network which extends via a two-wire circuit, e.g., a subscriber line circuit, to a subscriber's telephone end device, as is realized with broadband transmission applications, for example in connection with ADSL (Asynchronous Digital Subscriber Line), a network termination unit or NT unit over which the data are received and sent exists for each subscriber. In the mentioned ADSL systems, data reception is in the foreground, since the subscriber usually calls up a high information

content via the subscriber line circuit, e.g. for home video or internet applications. The subscriber can have various kinds of NT units at his disposal, as for example an ATM interface with 25.6 Mbit/s. Other standards also exist besides this, such as, e.g., Ethernet, but the present invention is not directed toward these.

There are differently equipped ATM NT units which differ from each other by the implemented intelligence. A particular feature consists of the provision of a connection between the NT unit and a so-called element manager in the ATM network on a higher information layer which correspondingly configures the NT units. This configuration data contains, among other things, information concerning the kind of data traffic (Quality of Service, QoS), e.g., CBR or UBR, related to the addresses of the individual cells (VPI/VCI). The respective configuration thereby decides how the received data is to be treated. Thus the CBR packets can be granted priority, since these must not undergo a large or variable delay. They are therefore conducted through small cell buffers, and due to this are limited in their peak transmission rate. UBR packets can appear in large bursts and are therefore to be conducted through large packet buffers, in order to avoid a loss of packets or cells.

Additionally, the so-called EPD (Early Packet Discard) process can be applied to the data stream, and reduces the number of false or lost cells, thereby increasing the data throughput, e.g. for data transmissions (TCIP/IP).

If this remote configuration does not take place, or takes place only to a limited extent, considerable data losses can occur when UBR packets are treated as CBR packets and, because of the small buffer memory, a large part of the data cannot be buffered. A further disadvantage of the conventional configuring process consists in that heretofore no generally accepted protocol has been defined for this purpose, and matching difficulties for this reason arise again and again. Furthermore, remote configuration also increases complexity and thus the costs of an ATM transmission.

The invention therefore has as its object to provide a configuration process of the kind stated at the beginning, with which an effective allocation of ATM packets with different transmission modes and the corresponding buffers can be directly performed in a network termination unit.

This is attained according to the invention in that the number of the data cells contained in each sent or received data packet is determined in the network unit (10), and from this it is determined whether an ATM connection with constant (CBR) or non-constant (UBR) data rate is present; and in that the data packets of a CBR connection are processed with higher priority than the data packets of the UBR connection.

In this manner, each network termination unit can undertake, completely independent of the rest of the network, an analysis of how the incoming or outgoing data traffic is to be treated, so that data losses and the expense of complex protocols can be avoided.

Different adaptation layers (AAL) are defined for the ATM data transmission, according to the application: for CBR connections, usually AAL1 or AAL5, and for UBR connections, AAL5. Network termination units known heretofore cannot automatically determine the kind of transmission present at the time, and therefore have to be remotely configured over the ATM network, resulting in an increased expense.

In a process in which adaptation layers with different packet length are defined for the transmission of the data packets, the network termination unit can, in a development of the invention, determine the kind of data connection, in that on determination of a data packet which contains more than a predeterminable number of cells greater than two, preferably three cells, a UBR packet is detected, and in all other cases a CBR data packet is detected; and in that the ATM connection is correspondingly classified as a UBR or a CBR connection.

A preferential treatment of the CBR transmission can thus be undertaken, in a further development of the invention, in that at the beginning of transmission a CBR connection is always assumed as the initial value.

In order to further ensure that a successive transmission of data packets is carried out in one of the two transmission modes, in a data stream incoming to the network unit or sent out from the said unit, it can be provided according to a further embodiment example of the invention that the presence of a UBR or CBR connection is determined only after the evaluation of the results of a predeterminable number of data packets.

Finally, if a UBR or CBR connection is determined in the network termination unit, according to a variant of the invention it can be provided that the data packets detected by the network termination unit as data packets of a UBR connection are fed to a buffer with relatively high storage capacity and the data packets detected by the network termination unit as data packets of a CBR connection are fed to a buffer with relatively low storage capacity.

According to a further feature of the invention, it can be provided that on establishing a UBR connection, the network termination unit can optionally be set in the EPD (Early Packet Discard) mode, whereby an overflow of the buffer is prevented.

The invention furthermore relates to a network termination unit for the asynchronous ATM transmission of data in packets (Asynchronous Transfer Mode), by means of which the data divided into cells and assembled into packets with several cells can be sent and received with constant (CBR) and also non-constant (UBR) data rate, a buffer with relatively large capacity allocated to the UBR data, and a buffer with relatively small capacity allocated to the CBR data are provided, which can in particular serve for the application of the process according to the invention.

The invention has as its object to provide a network termination unit which is capable of undertaking an automatic configuration according to the kind of data transmission.

This attained according to the invention in that it comprises a device for the determination of the number of data cells contained in each data packet which undertakes a classification, corresponding to the determined number of data cells, of the ATM connection present, and according to this classification deflects the data packets either into the buffer with relatively small capacity allocated to the CBR data or into the buffer with relatively large capacity allocated to the UBR data.

The mode in which the transmission at the present time is carried out can be determined in this manner for an existing data connection, so that a corresponding effect on the network termination unit can be carried out.

The invention will be described in more detail hereinbelow using the embodiment example shown in the accompanying drawings.

Fig. 1 is a schematic diagram of an ATM cell;

Fig. 2 is a schematic diagram of an AAL5 packet;

Fig. 3 is a schematic diagram of the cell head of the last cell of an AAL5 packet, and

Fig. 4 is a block circuit diagram of an ATM data transmission system with an embodiment of the network termination unit according to the invention.

Fig. 1 shows a standardized ATM cell 1, as used for data transmission. It consists of a cell head or header 2 with 5 bytes and a use data field 3 having a length of 48 bytes. Cells of this kind are transmitted asynchronously, and thus without previously fixed allocated places, by multiplexing. The identifier (VPI/VCI) contained in the header is evaluated for the switching of the cells between successive transmission sections, by means of which it can be determined which ATM connection is present at a given time.

During the transmission of data between a data source and a data sink, different adaptation layers (AAL adaptation layers), e.g., AAL1, AAL5, can be allocated to each connection in the ATM process, respectively several cells 1, 1′ (up to 1365 cells corresponding to an effective bit rate of 64 kB) are assembled into a packet and are transmitted (Fig. 2). Each header of the last cell of a packet has a special identifier (VCI/VPI) from which an AAL5 packet can be recognized. If such an identifier appears, the adaptation layer is defined as AAL5. However, no unique identification of the kind of transmission (QoS, Quality of Service) can be thereby determined, since CBR connections can also be packaged in AAL5 packets.

Typical applications of CBR (Constant Bit Rate) connections are real time transmissions, accordingly speech and video transmissions, e.g., video conferences, where a delay should take place only within given limits. AAL1 packets are chiefly used for CBR, but nevertheless no clear allocation

can result from this criterion, since a CBR transmission is often carried out in which only a single, or very few, ATM cells are sent in an AAL5 packet. The time delay arising from the packing and unpacking of the ATM cells can thereby be kept small. However, more than three ATM cells per packet are not used in a CBR transmission.

In contrast to this, UBR (Unspecified Bit Rate) is chiefly used for pure data transmissions and is always carried out using AAL5 packets which contain more than three ATM cells.

Other forms of connection (e.g., VBR, ABR) are also possible besides UBR and CBR; however, these are to be allocated qualitatively to the CBR group, and are therefore not dealt with in further detail here. Two groups are sufficient for the application according to the invention, each connection which has specified a constant transmission rate being counted as belonging to the CBR group.

This leads to the following classification of the two kinds of transmission:

UBR: AAL5 and regularly packet lengths greater than three ATM cells.

CBR: All other connections, e.g., AAL1 or AAL5 with three or fewer ATM cells.

The criterion "three ATM cells" for the determination of the UBR connection can be replaced by an optional other, predeterminable number greater than two.

An example of a data transmission system, for which the process according to the invention can be used, is illustrated in Fig. 4. A subscriber's telephone terminal device 9 and data terminal device 13 are connected via a subscriber circuit 16 to a switching office 20, the analog or digital signals for the telephone terminal device 9 being separated by splitter filters 7, 8 arranged at the ends of a subscriber line circuit 16 from the broadband signals of an ADSL transmission and conducted to, or received by, a subscriber interface (line card) 19. The data received by the data terminal device 13 arrives from an ATM network 12 which is connected to a broadband-ATM/ADSL line card 11 of the switching office 20, via the subscriber line circuit 16 into the network termination unit 10, in which the said data is prepared for the terminal device 13. The packetized, asynchronous transmission of data takes place in the ATM process in which, according to requirements, data can be sent and received at a constant (CBR) and also non-constant (UBR) data rate, and in which a buffer with relatively large capacity 11 allocated to the UBR data, and a buffer with relatively small capacity 12 allocated to the CBR data, are provided. In the reverse direction, transport of the data from the data terminal device 13 to the network termination unit 10 takes place, where the said data is converted into cells and packets and transmitted toward the ATM network 12.

The process according to the invention for configuring the network termination unit 10 for packetized, asynchronous ATM transmission of data now consists in that the number of the data cells contained in each sent or received data packet is determined in the network unit 10, and it is determined

therefrom whether an ATM connection with constant (CBR) or non-constant (UBR) data rate is present, and that the data packets of a CBR connection are processed with higher priority than the data packets of the UBR connection.

For this purpose, the network termination unit 10 comprises according to the invention a device 14 which, for the determination of the number of data cells contained in each data packet, conducts a classification of the present ATM connection corresponding to the determined number of data cells, and corresponding to this classification, deflects the data packets either into the buffer with relatively small capacity 12 allocated to the CBR data or into the buffer with relatively large capacity 11 allocated to the UBR data.

For this purpose, each data packet to arrive or to be sent is tested for this purpose in the device 14; first, the end of a data packet is determined by detection of the packet end cell 1′, for which the header 2′ is schematically shown in Fig. 3. This header 2′ of the packet end cell 1′ differs from the header of the other cells 1 by the error recognition code CRC and a data bit denoted by PTI. As soon as the packet end cell 1′ has been detected, a statement of the number of cells contained in the whole packet can be arrived at.

When a data packet is ascertained which contains more than a predeterminable number greater than two of cells, preferably three cells, a UBR data packet is detected, and a CBR data packet in all other cases. The ATM connection is classified as a UBR or a CBR connection corresponding to this ascertainment. Thus AAL1 data packets are counted as a CBR transmission without further testing.

It is advantageous if the network termination unit 10 is optionally set in the EPD (Early Packet Discard) mode when a UBR connection is ascertained, so that a memory overflow is prevented. In order to make possible an increase of the correctness of the statement when there are irregularities of the data traffic, a statistical evaluation of several data packets can be performed before a decision is arrived at as to which kind of connection (QoS) is present.

Thus the presence of a UBR or CBR transmission is ascertained only after evaluation of the results of a predeterminable number of data packets. As indicated in Fig. 4, an effect on the buffers 11, 12 can be undertaken after the ascertainment of the kind of transmission of the data packets incoming at the present time by means of the device 14 of the network termination unit 10 according to the invention.

The data packets detected by the network termination unit 10 as UBR data packets are fed to a buffer 11 with relatively high storage capacity, and the data packets detected by the network termination unit 10 as CBR data packets are fed to a buffer 12 with relatively low storage capacity, where they are buffered for further processing. A network-independent and automatic configuration

of the network termination unit is thereby possible. All connections in the network termination unit are to be assumed to be CBR connections on switching on or when transmission begins.

PATENT CLAIMS

1. Process for configuring a network termination unit for asynchronous packet ATM (Asynchronous Transfer Mode) transmission of data, the data divided into cells and assembled into packets being transmitted either at a constant data rate (CBR), e.g., speech and video data, or at a non-constant data rate (UBR), the data cells of packets being received and sent over the network termination unit, which represents an interface between a transmission line and a data end device, **wherein** the number of the data cells in each sent or received data packet is determined in the network termination unit (10), and it is determined therefrom whether an ATM connection with constant (CBR) or non-constant (UBR) data rate is present, the data packets of a CBR connection being processed with a higher priority than the data packets of the UBR connection.

2. Process according to claim 1, **wherein** adaptation layers with different packet length are defined for the transmission of the data packets, the network termination unit can, in a development of the invention, determine the kind of data connection, in that on determination of a data packet which contains more than a predeterminable number of cells greater than two, preferably three cells, a UBR packet is detected, and in all other cases a CBR data packet is detected, and in that the ATM connection is correspondingly classified as a UBR or a CBR connection.

3. Process according to claim 1 or 2, **wherein** at the beginning of transmission a CBR connection is always assumed as the initial value.

4. Process according to claim 1, 2 or 3, **wherein** the presence of a UBR or CBR connection is determined only after the evaluation of the results of a predeterminable number of data packets.

5. Process according to one of claims 1-4, **wherein** on establishing a UBR connection, the network termination unit can optionally be set in the EPD (Early Packet Discard) mode.

6. Process according to one of claims 1-5, **wherein** the data packets detected by the network termination unit [10] as data packets of a UBR connection are fed to a buffer [11] with relatively high storage capacity and the data packets detected by the network termination unit [10] as data packets of a CBR connection are fed to a buffer [12] with relatively low storage capacity.

7. Network termination unit for the asynchronous ATM transmission of data in packets (Asynchronous Transfer Mode), by means of which the data divided into cells and assembled into packets with several cells can be sent and received with constant (CBR) and also non-constant (UBR) data rate, a buffer with relatively large capacity [11] allocated to the UBR data, and a buffer with relatively small capacity [12] allocated to the CBR data being provided, in particular for the application of the process according to one of claims 1-6, **wherein** it comprises a device [14] for the determination of the number of data cells contained in each data packet which undertakes a classification, corresponding to the determined number of data cells, of the ATM connection present, and according to this

classification deflects the data packets either into the buffer with relatively small capacity [12] allocated to the CBR data or into the buffer with relatively large capacity [11] allocated to the UBR data.

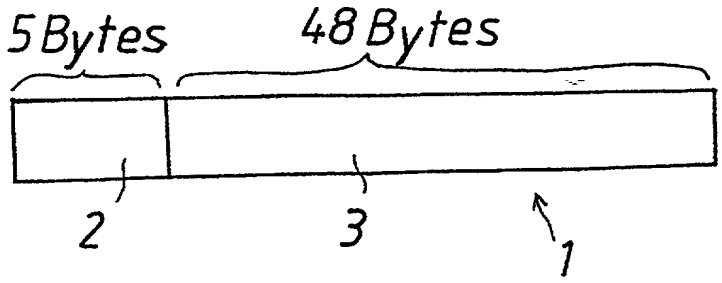

FIG.1

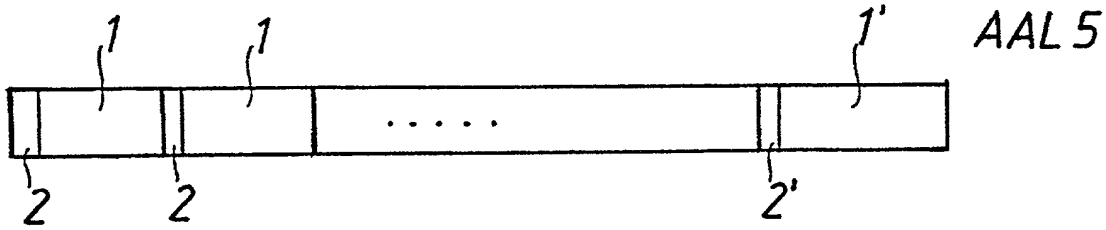

FIG.2

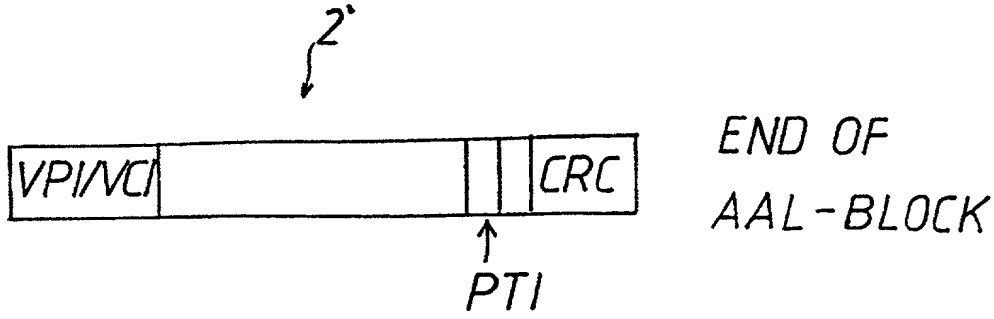

FIG.3

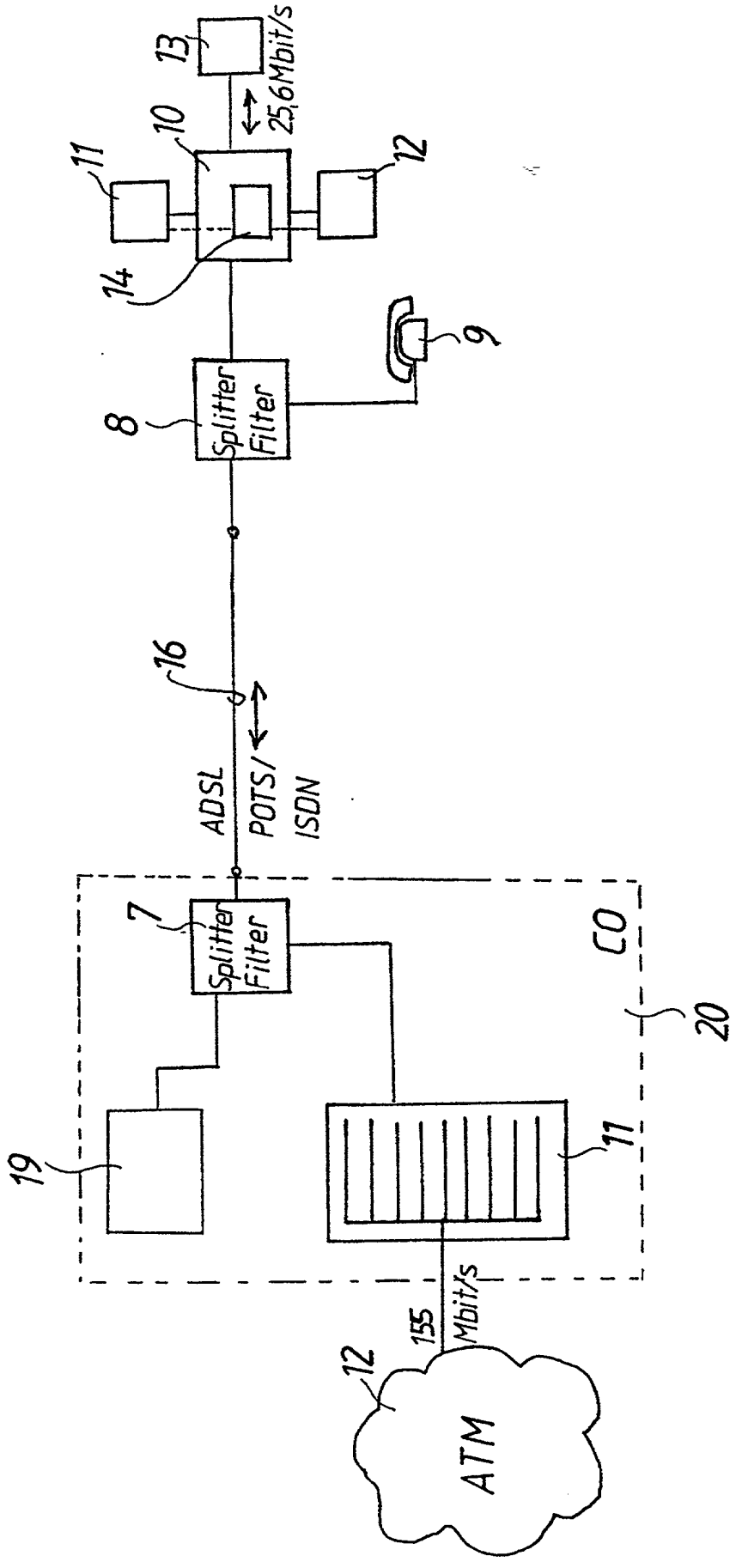
13
25,6Mbit/s
10
11
12
14
9
8
Splitter
Filter
16
ADSL
POTS/
ISDN
7
Splitter
Filter
CO
20
19
11
155
Mbit/s
12
ATM

FIG.4

COMBINED DECLARATION FOR PATENT APPLICATION AND POWER OF ATTORNEY **(Includes Reference to Provisional and PCT International Applications)**	Attorney's Docket No. 032287-017

As a below named inventor, I hereby declare that:
My residence, post office address and citizenship are as stated below next to my name;
I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

PROCESS FOR CONFIGURING A NETWORK TERMINATION UNIT

the specification of which (check only one item below):

☒ is attached hereto.

☐ was filed as United States application
Number _____
on _____
and was amended
on _____ (if applicable).

☐ was filed as PCT international application
Number _____
on _____
and was amended
on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, §1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §119 (a)-(e) of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed:

PRIOR FOREIGN/PCT APPLICATION(S) AND ANY PRIORITY CLAIMS UNDER 35 U.S.C. §119:

COUNTRY (if PCT, indicate "PCT")	APPLICATION NUMBER	DATE OF FILING (day, month, year)	PRIORITY CLAIMED UNDER 35 U.S.C. §119
Austria	A 2028/98	1 December 1998	X Yes _ No
			_ Yes _ No
			_ Yes _ No
			_ Yes _ No
			_ Yes _ No

I hereby claim the benefit under Title 35, United States Code § 119(e) of any United States provisional application(s) listed below.

_____ _____
(Application Number) (Filing Date)

_____ _____
(Application Number) (Filing Date)

COMBINED DECLARATION FOR PATENT APPLICATION AND POWER OF ATTORNEY (CONT'D) **(Includes Reference to Provisional and PCT International Applications)**	Attorney's Docket No. 032287-017

I hereby claim the benefit under Title 35, United States Code, §120 of any United States applications(s) or PCT international application(s) designating the United States of America that is/are listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose to the Office all information known to me to be material to the patentability as defined in Title 37, Code of Federal Regulations §1.56, which became available between the filing date of the prior application(s) and the national or PCT international filing date of this application:

PRIOR U.S. APPLICATIONS OR PCT INTERNATIONAL APPLICATIONS DESIGNATING THE U.S. FOR BENEFIT UNDER 35 U.S.C. §120:

U.S. APPLICATIONS		**STATUS *(check one)***		
U.S. APPLICATION NUMBER	U.S. FILING DATE	PATENTED	PENDING	ABANDONED

PCT APPLICATIONS DESIGNATING THE U.S.					
PCT APPLICATION NO.	PCT FILING DATE	U.S. APPLICATION NUMBERS ASSIGNED (if any)			
PCT/AT99/00293	1 December 1999	UNASSIGNED		X	

I hereby appoint the following attorneys and agent(s) to prosecute said application and to transact all business in the Patent and Trademark Office connected therewith and to file, prosecute and to transact all business in connection with international applications directed to said invention:

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

COMBINED DECLARATION FOR PATENT APPLICATION AND POWER OF ATTORNEY (CONT'D) (Includes Reference to Provisional and PCT International Applications)	Attorney's Docket No. 032287-017

FULL NAME OF SOLE OR FIRST INVENTOR Johann PFEIFFER	SIGNATURE x	DATE x 13.2.2001
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FULL NAME OF SECOND JOINT INVENTOR, IF ANY	SIGNATURE	DATE
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POST OFFICE ADDRESS		
FULL NAME OF THIRD JOINT INVENTOR, IF ANY	SIGNATURE	DATE
RESIDENCE	CITIZENSHIP	
POST OFFICE ADDRESS		
FULL NAME OF FOURTH JOINT INVENTOR, IF ANY	SIGNATURE	DATE
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POST OFFICE ADDRESS		
FULL NAME OF FIFTH JOINT INVENTOR, IF ANY	SIGNATURE	DATE
RESIDENCE	CITIZENSHIP	
POST OFFICE ADDRESS		
FULL NAME OF SIXTH JOINT INVENTOR, IF ANY	SIGNATURE	DATE
RESIDENCE	CITIZENSHIP	
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FULL NAME OF SEVENTH JOINT INVENTOR, IF ANY	SIGNATURE	DATE
RESIDENCE	CITIZENSHIP	
POST OFFICE ADDRESS		
FULL NAME OF EIGHTH JOINT INVENTOR, IF ANY	SIGNATURE	DATE
RESIDENCE	CITIZENSHIP	
POST OFFICE ADDRESS		